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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/064,592	07/29/2002	James I. Metzger JR.		5124

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EXAMINER

GOINS, DAVETTA WOODS

ART UNIT	PAPER NUMBER
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2632

DATE MAILED: 05/21/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/064,592

Applicant(s)

METZGER, JAMES I.

Examiner

Davetta W. Goins

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_ 6) ☐ Other: \_\_\_\_.

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-9, 12, and 14-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Sørensen (US Pat. 5,942,975).

In reference to claim 1, Sørensen discloses a) the claimed non-conducting member defining an opening therein for receiving a saw blade, which is met by blade member 4 (col. 8, lines 41-58), b) the claimed conductive sensor situated on the non-conducting member adjacent the opening to define a danger zone, which is met by a conductor (cable, plate or the like) for conducting the signal to the object (col. 9, lines 1-9), c) the claimed voltage source for applying a voltage to the sensor, which is met by a signal generator XR-2206 generating a sinusoidal signal of 100 khz with a variable amplitude between 0-3 volts (col. 8, lines 66,67; col. 9, lines 1-9), d) the claimed monitor circuit configured to detect a change in the capacitance of the sensor to signal a user entry into the danger zone, which is met by a receiver connected to the potentially dangerous active portion, blade member 4, to detect capacitively transmitted signals of the area (col. 8, lines 41-65).

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In reference to claim 2, Sørensen discloses the claimed sensor at least partially surrounds the opening, which is met by the receiver through the blade member 4 complying with the conditions necessary for activating protective measures (col. 8, lines 41-58).

In reference to claim 3, Sørensen discloses the claimed non-conducting member defines an outfeed end, and wherein a portion of the sensor situated adjacent the outfeed end is enlarged to define an enlarged outfeed danger zone, which is met by the security distance S between the head 5 of the person 1 and the blade member 4 of the chain-saw (col. 8, lines 41-58).

In reference to claims 4, 5, Sørensen discloses the claimed plurality of sensors situated on the non-conducting member defining a plurality of danger zones, which is met by the receiver includes an input connected to a conductor on, in or connected to the active portion (e.g. blade member 4) so that the capacitive effect between the object and the active portion may be exploited (col. 9, lines 10-36). The device may be applied to a stationary rotary saw, the security distance S represents the distance at which the signal is received with conditions to activate protective measures; the system accepts lack of direct contact between the person 1 and the plate 25 illustrating that the signal may also be transmitted capacitively at “intermediate points” (plurality of danger zones), (col. 10, lines 39-54).

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In reference to claim 6, Sørensen discloses the claimed alarm circuit coupled to the monitor circuit for activating an alarm in response to the change in capacitance, which is met by an audible alarm used to warn the operator of the reduced security distance (col. 11, lines 51-57).

In reference to claims 7, 8, Sørensen discloses the claimed comprising motor control circuit coupled to the monitor circuit for controlling a motor driving the saw blade in response to the change in capacitance, which is met by conditions necessary for activate protective measures such as interrupting the power to the tool, engaging a braking mechanism or reversing the direction of the electrical current to the electrical motor driving the active portion (col. 8, lines 41-58).

In reference to claim 9, Sørensen discloses impedance coupled between the voltage source and the sensor; and a voltage monitor coupled to the sensor to detect changes in the voltage drop across the impedance in response to the capacitance change, which is met by after the filter the signal passes through a one-way amplifier functioning as an impedance adaptation between the passive high-pass filter; the detector 100 khz signal with the desired amplitude the output going from low to high, the signal used to activate protective measures (col. 9, lines 10-36).

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In reference to claim 12, Sørensen discloses the claimed voltage source comprising an oscillator, which is met by regular oscillations of the proximity signal is indicative of the substantially shortest distance between the object and the active portion (col. 3, lines 13-22).

In reference to claim 14, Sørensen discloses the claimed non-conductive member is receivable by an opening in a work surface, which is met by a stationary rotary saw, a person 1 standing on a conductive plate 25, a capacitance C3 existing between the plate 25 and the person 1 (col. 10, lines 39-54).

In reference to claim 15, Sørensen discloses the claimed non-conductive member forming a blade guard, which is met by components, such as a dummy cable, built into a light-weight, flexible, tough casing arranged around the power lead so that an additional safe-guard of the power lead is attained (col. 10, lines 9-14).

In reference to claims 16, 21-23, Sørensen discloses a) the claimed blade, which is met by blade member 4, b) the claimed motor driving the blade, which is met by the electrical motor driving the active portion (col. 8, lines 49-58), c) the claimed table for supporting a work piece with an opening, which is met by stationary rotary saw (col. 10, lines 39-54), d) the claimed non-conducting member defining an opening therein for receiving a saw blade, which is met by handle 2, e) the claimed conductive sensor situated on the non-conducting member adjacent the

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opening to define a danger zone, which is met by the blade member 4 (col. 8, lines 41-65), f) the claimed voltage source for applying a voltage to the sensor, the power generator (col. 8, lines 41-58; col. 9, lines 40-55), g) the claimed monitor circuit configured to detect a change in the capacitance of the sensor to signal a user entry into the danger zone, which is met by the receiver connected to the dangerous active portion (blade) such that a signal is transmitted capacitively between the object to be protected and the active portion (col. 8, lines 59-65).

In reference to claim 17, Sørensen discloses the claimed alarm circuit coupled to the monitor circuit for activating an alarm in response to the change in capacitance, which is met by an audible alarm used to warn the operator of the reduced security distance (col. 11, lines 51-57).

In reference to claims 18-20, Sørensen discloses the claimed motor control circuit coupled to the monitor circuit for controlling operation of the motor in response to the change in capacitance, which is met by conditions necessary for activate protective measures such as interrupting the power to the tool, engaging a braking mechanism or reversing the direction of the electrical current to the electrical motor driving the active portion (col. 8, lines 41-58).

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 10, 11, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sørensen.

In reference to claims 10, 11, although Sørensen does not specifically disclose the claimed monitor circuit comprising a bridge circuit coupled to the sensor, wherein the capacitance change imbalancing the bridge, or bridge being coupled to a comparator, he does disclose receiver includes an input connected to a conductor on, in or connected to the active portion (e.g. blade member 4) so that the capacitive effect between the object and the active portion may be exploited (col. 9, lines 10-36). The device may be applied to a stationary rotary saw, the security distance S represents the distance at which the signal is received with conditions to activate protective measures; the system accepts lack of direct contact between the person 1 and the plate 25 illustrating that the signal may also be transmitted capacitively at "intermediate points" (plurality of danger zones), (col. 10, lines 39-54). In case of capacitive transmission of the proximity signal the steps consist of applying an alternating voltage to one of the active portion and the object, comparing a reference threshold voltage amplitude with the voltage amplitudes of any displacement current capacitively transmitted by the alternating voltage, and activating the protective operations if any of the current voltage amplitudes are larger than the threshold voltage amplitude (col. 3, lines 31-43). Since Sørensen discloses a method for comparing the voltage after determining the proximity of the object and active portion (blade), it would have



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been obvious to one of ordinary skill in the art at the time of the invention to include a bridge circuit coupled to a sensor, to drive the comparator, which is used to detect the level of voltage to determine whether to operate protective measures after detecting capacitively transmitted signals from an object.

In reference to claim 13, Sørensen discloses the claimed oscillator being tuned to a predetermined frequency, the frequency changing in response to the change in capacitance, which is met by the signal is transmitted capacitively between the object to be protected and activate the active portion; the generator generates a signal of 100 khz; when a sufficiently intense 100 khz capacitively transmitted signal is detected, the protective measures are activated (col. 8, lines 59-65).

5. The prior art of record and not relied upon is considered pertinent to the applicant's disclosure as follows. Hughes et al. (US Pat. 5,081,406), and Fukuda (US Pat. 5,868,188), which are references that include systems for detecting contact with the blade of a workpiece.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Davetta W. Goins whose telephone number is 703-306-2761.

The examiner can normally be reached on Mon-Fri with every other Fri. off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, (acting SPE) Daniel Wu can be reached on 703-308-6730. The fax phone numbers

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for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-7666.

*Davetta W. Goins*

D.W.G.

May 15, 2003

Davetta W. Goins

Davetta W. Goins

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